## **EAST Search History**

## **EAST Search History (Prior Art)**

| Ref # | Hits  | Search Query  | DBs   | Default<br>Operator | Plurals | Time Stamp          |
|-------|-------|---|---|---------------------|---------|---------------------|
| L1    | 5     | "613125".ap.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ                 | ON      | 2009/07/04<br>14:47 |
| L2    | 109   | Jang-Kyung-hun.in.                                    | US-PGPUB;<br>USPAT  | ADJ                 | ON      | 2009/07/04<br>15:00 |
| L3    | 35    | park-Jong-ae.in.                                      | US-PGPUB;<br>USPAT  | ADJ                 | ON      | 2009/07/04<br>15:08 |
| L4    | 34    | Lee-in-sun.in.  | US-PGPUB;<br>USPAT  | ADJ                 | ON      | 2009/07/04<br>15:21 |
| L5    | 13834 | "ad-hoc"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ                 | ON      | 2009/07/04<br>15:22 |
| L6    | 6055  | "ad-hoc" adj2 network<br>\$4                          | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ                 | ON      | 2009/07/04<br>15:22 |
| L7    | 5187  | 6 and (wireless)                                      | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ                 | ON      | 2009/07/04<br>15:22 |
| L8    | 384   | 7 and (encrypt\$4 adj2<br>keys encod\$4 adj2<br>keys) | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | ON      | 2009/07/04<br>15:23 |
| L9    | 276   | 8 and group   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | ON      | 2009/07/04<br>15:23 |

| L10 | 214   | 9 and (wireless adj2<br>terminal laptop cell\$4<br>adj2 phone PDA)                                | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON  | 2009/07/04<br>15:24 |
|-----|-------|---|---|-----|-----|---------------------|
| L11 | 22244 | (modify\$4 chang\$4)<br>adj3 keys   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON  | 2009/07/04<br>15:26 |
| L12 | 31408 | (modify\$4 chang\$4)<br>adj5 keys   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON  | 2009/07/04<br>15:26 |
| L13 | 25    | 10 and 12   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON  | 2009/07/04<br>15:26 |
| L14 | 2     | 13 and (predetermined<br>adj2 time adj2 period<br>modificat\$4 adj2 time<br>adj2 period)          | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON  | 2009/07/04<br>15:27 |
| L15 | 0     | 14 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706") | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2009/07/04<br>15:28 |
| L16 | 1200  | (380/270).CCLS.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2009/07/04<br>15:31 |
| L17 | 696   | 16 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706") | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2009/07/04<br>15:31 |

| L18 | 1899 | (380/277).CCLS.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2009/07/04<br>15:40 |
|-----|------|---|---|-----|-----|---------------------|
| L19 | 1180 | 18 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706") | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2009/07/04<br>15:40 |
| L20 | 0    | 19 and (wirless)  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2009/07/04<br>15:41 |
| L21 | 7    | 19 and ("ad-hoc")   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2009/07/04<br>15:41 |
| L22 | 872  | (380/278).CCLS.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2009/07/04<br>15:41 |
| L23 | 520  | 22 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706") | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2009/07/04<br>15:42 |
| L24 | 822  | (455/3.01).CCLS.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2009/07/04<br>15:56 |
| L25 | 516  | 24 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706") | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2009/07/04<br>15:56 |

| L26 | 240  | (455/463).OCLS.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2009/07/04<br>16:01 |
|-----|------|---|---|-----|-----|---------------------|
| L27 | 215  | 26 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706") | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2009/07/04<br>16:01 |
| L28 | 926  | (370/260).CCLS.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2009/07/04<br>16:05 |
| L29 | 573  | 28 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706") | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2009/07/04<br>16:05 |
| L30 | 5455 | (709/227).COLS.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2009/07/04<br>16:11 |
| L31 | 3643 | 30 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706") | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2009/07/04<br>16:11 |
| L32 | 75   | 31 and ("ad-hoc")   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2009/07/04<br>16:11 |
| L33 | 48   | 31 and ("ad-hoc") and (key)   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2009/07/04<br>16:12 |

| L34 | 754  | (709/237).CCLS.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2009/07/04<br>16:14 |
|-----|------|---|---|-----|-----|---------------------|
| L35 | 627  | 34 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706")   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2009/07/04<br>16:14 |
| L36 | 12   | 35 and ("ad-hoc")   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2009/07/04<br>16:14 |
| L39 | 3415 | (713/176).CCLS.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2009/07/04<br>16:41 |
| L40 | 2152 | 39 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706")   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2009/07/04<br>16:41 |
| L41 | 11   | 40 and "ad-hoc"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2009/07/04<br>16:41 |
| S1  | 96   | ("20040005058" "20050041662" "20030149874" "20030226013" "20030235309" "20060174116" "6925562" "6950946" "20020095594" "20040215687" "20040225740" "20040228490" "20040228490" "20050004875" "20050059379" "20050091483" "200500149204" | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2006/09/21<br>15:07 |

|           |     | "20050149626" "20050152305" "20050216751" "20060039336" "20060062190" "20060128360" "5436905" "5745483" "5987057" "6134587" "6338087" "6415330" "6909706" "6934297" "7020438" "7020439" "20020176399" "20020176399" "20030145092" "20040152464" "20040202141" "20060155860" "5199072" "6438367" "6477370" "20030056114" "20050025160" "20050107081" "20060101273" "63666622" "6912657" ). pn. |   |     |    |                     |
|-----------|-----|---|---|-----|----|---------------------|
| <b>S2</b> | 762 | ad-hoc (group or<br>network\$4) and key   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2006/09/21<br>15:09 |
| S3        | 2   | ad-hoc (group or<br>network\$4) and dual<br>keys  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/10/29<br>15:56 |
| S4        | 762 | ad-hoc (group or<br>network\$4) and keys  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2006/09/21<br>15:10 |
| S5        | 89  | ad-hoc (group or<br>network\$4) same keys   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2006/09/21<br>16:05 |

| S6         | 36  | ad-hoc group and keys<br>and password                         | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2006/09/21<br>16:10 |
|------------|-----|---|---|-----|-----|---------------------|
| S7         | 5   | ad-hoc (group or<br>community) and group<br>keys and password | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2006/09/21<br>16:26 |
| <b>S</b> 8 | 275 | Asokan  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2006/09/25<br>09:30 |
| <b>S</b> 9 | 17  | Asokan and Ginzboorg  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2006/09/25<br>09:34 |
| S10        | 0   | (Asokan and Ginzboorg)<br>and ad-hoc                          | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2006/09/25<br>10:31 |
| S11        | 4   | "4200770".pn.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2006/09/25<br>10:43 |
| S12        | 2   | "5241599".pn.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2006/09/25<br>13:50 |
| S13        | 2   | "5241599".pn.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2006/09/25<br>13:51 |

| S14 | 854  | 713/171  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2006/09/25<br>13:51 |
|-----|------|--|---|-----|-----|---------------------|
| S16 | 1    | "5241599".pn.  | USPAT   | OR  | OFF | 2006/09/25<br>14:13 |
| S17 | 5    | "613125".ap.   | US-PGPUB;<br>USPAT  | OR  | OFF | 2007/10/29<br>15:55 |
| S18 | 847  | (713/171).COLS.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2007/10/29<br>15:56 |
| S19 | 2    | ad-hoc (group or<br>network\$4) and dual<br>keys         | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2007/10/29<br>15:56 |
| S20 | 0    | (dual encryption keys)<br>same (wirless) same ad-<br>hoc | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2008/06/29<br>18:05 |
| S21 | 2    | (dual encryption keys)<br>same (wireless)                | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2008/06/29<br>18:06 |
| S22 | 2763 | (encryption keys) same<br>(wireless)                     | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2008/06/29<br>18:06 |
| S23 | 21   | (encryption keys) same<br>(wireless) same (ad-<br>hoc)   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2008/06/29<br>18:06 |

| S24 | 2     | S23 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706") | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/06/29<br>18:07 |
|-----|-------|--|---|-----|----|---------------------|
| S25 | 10996 | (ad-hoc)   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/06/29<br>18:10 |
| S26 | 4416  | (wireless) same (ad-<br>hoc)   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/06/29<br>18:10 |
| S27 | 1271  | S26 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706") | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/06/29<br>18:10 |
| S28 | 5     | (dual encryption keys)   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/06/29<br>18:11 |
| S29 | 28490 | (encryption keys)  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/06/29<br>18:13 |
| S30 | 485   | (encryption keys) and (wireless) and (ad-hoc)  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/06/29<br>18:13 |
| S31 | 162   | S30 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706") | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/06/29<br>18:13 |

| S32        | 90  | S31 and (modifi\$4) and (predetermined)  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2008/06/29<br>18:14 |
|------------|-----|--|---|-----|-----|---------------------|
| <b>S33</b> | 90  | S31 and (modifi\$4) and (predetermined) and (time)   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2008/06/29<br>18:14 |
| S34        | 8   | ("5229764"   "6021201"<br>  "6070245"  <br>"6125192"   "6330670"<br>  "6442690"  <br>"6704872").PN. OR<br>("6968453").URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR  | OFF | 2008/06/29<br>21:19 |
| S35        | 217 | ("20020013941"   "20020056112"   "20030095542"   "4922529"   "4995074"   "5187710"   "5276731"   "5341425"   "5349638"   "5375161"   "5406557"   "5428608"   "5449970"   "5479411"   "5533100"   "5533110"   "5533100"   "5533110"   "5583929"   "5592529"   "5600643"   "5612997"   "5615252"   "5628005"   "5629978"   "5642348"   "5662978"   "5689555"   "5689708"   "5708961"   "5712907"   "5724411"   "57724412"   "5737333"   "5740230"   "5742596"   "5742905"   "57551706"   "5751760"   "5754775"   "5764752"   "5768513" | US-PGPUB;<br>USPAT; USOCR   | OR  | OFF | 2008/06/29 21:20    |

|                                      | e        | , |   |
|--------------------------------------|----------|---|---|
| "5784444"                            |          |   |   |
| "5790806"   "5793413"                |          |   |   |
| "5796394"                            |          |   |   |
| "5796424"   "5796952"                |          |   |   |
| "5802045"                            |          |   |   |
| "5802160"   "5805587"                |          |   |   |
| "5809128"                            |          |   |   |
| "5809520"   "5814798"                |          |   |   |
| "5825829"                            |          |   |   |
| "5825862"   "5850340"                |          |   |   |
| "5850429"                            |          |   |   |
| "5859902"   "5862134"                |          |   |   |
| "5864612"                            |          |   |   |
| "5867495"   "5870565"                |          |   |   |
| "5883677"                            |          |   |   |
| "5883942"   "5887259"                |          |   |   |
| "5889844"                            |          |   |   |
| "5894504"   "5896444"                |          |   |   |
| "5898668"                            |          |   |   |
| "5898780"   "5907598"                | •        |   |   |
| "5907604"                            |          |   |   |
| "5912962"   "5916302"                |          |   |   |
| "5917624"                            |          |   |   |
| "5920705"   "5923731"                |          |   |   |
| "5928335"                            |          |   |   |
| "5943397"   "5946381"                |          |   |   |
| "5946386"                            |          |   |   |
| "5956717"   "5970072"                |          |   |   |
| "5978470"                            |          |   |   |
| "5982774"   "5987100"                |          |   |   |
| "5987508"  <br>"5999525"   "5999602" |          |   |   |
| "5999612"                            |          |   |   |
| "6005861"   "6006253"                |          |   |   |
| "6011909"                            |          |   |   |
| "6023724"   "6028848"                |          |   |   |
| "6031896"                            |          |   |   |
| "6031899"   "6038233"                |          |   |   |
| "6044349"                            |          |   |   |
| "6052444"   "6052725"                |          |   |   |
| "6061434"                            |          |   |   |
|                                      |          |   |   |
| "6101246"                            |          |   |   |
| "6104704"   "6104800"                |          |   |   |
| "6108330"                            |          |   |   |
| "6115393"   "6118432"                |          |   |   |
| "6118768"                            |          |   |   |
| "6118784").PN. OR                    |          |   |   |
| ("6122357"   "6128304"               |          |   |   |
| "6137870"                            |          |   |   |
| "6144401"   "6148193"                |          |   |   |
| "6154465"                            |          |   |   |
| "6154531"   "6160880"                |          |   |   |
| "6163531"                            |          |   |   |
| "6167043"   "6169795"                |          |   |   |
|                                      | <b>§</b> |   | 1 |

| i : | 1 1040500011                          | : § |
|-----|---------------------------------------|-----|
|     | "6185288"  <br>"64.00756"             |     |
|     | "6188756"   "6188760"                 |     |
|     | "6192116"                             | -   |
|     | "6229887"   "6233235"                 |     |
|     | "6233313"                             |     |
|     | "6233318"   "6243388"                 |     |
|     | "6253249"                             |     |
|     | "6262979"   "6263065"                 |     |
|     | "6263503"                             |     |
|     | "6266405"   "6285750"                 |     |
|     | "6289025"                             |     |
|     | "6292553"   "6295298"                 |     |
|     | "6300947"                             |     |
|     | "6304566"   "6308221"                 |     |
|     | "6310889"                             |     |
|     | "6317884"   "6324279"                 |     |
|     | "6330244"                             |     |
|     | "6332139"   "6333931"                 |     |
|     | "6345047"                             |     |
|     | "6351464"   "6356546"                 |     |
|     | "6359881"                             |     |
|     | "6363411"   "6374124"                 |     |
|     | "6374296"                             |     |
|     | "6385305"   "6393017"                 | -   |
|     | "6396531"                             | -   |
|     | "6404735"   "6404764"                 |     |
|     | "6418139"                             |     |
|     | "6418146"   "6418216"                 |     |
|     | "6425131"                             |     |
|     | "6426955"   "6430276"                 | -   |
|     | "6437692"                             |     |
|     | "6438222"   "6438223"                 |     |
|     | "6442266"                             |     |
|     | "6445922"   "6449766"                 |     |
|     | "6452915"                             |     |
|     |                                       |     |
|     | "6456621"   "6459913"<br> - "6462146" |     |
|     | "6463146"  <br>"6466570"              |     |
|     | "6466570"   "6466964"<br> - "6467000" |     |
|     | "6467090"  <br>"6470958"   "6400074"  |     |
|     | "6473858"   "6490274"<br>             |     |
|     | "6493324"  <br>"6504740"              |     |
|     | "6501740"   "6505348"                 |     |
|     | "6519249"  <br>"6520628"   "6520888"  |     |
|     | "6522628"   "6522880"                 |     |
|     | "6526508"  <br>"6546468"              |     |
|     | "6546488"   "6560203"                 |     |
|     | "6560216"  <br>"65602700"             |     |
|     | "6563793"   "6563915"                 |     |
|     | "6570870"  <br>"6577644"              |     |
|     | "6577644"   "6594254"                 |     |
|     | "6606744"                             |     |
|     | "6611531"   "6633635"                 |     |
|     | "6651105"                             |     |
|     | "6654607").PN. OR                     |     |
|     | ("6889321").URPN.                     |     |
|     |                                       |     |

| 536 | 217 | ("20020013941"                         | US-PGPUB;    | OR                                      | OFF                                     | 2008/06/29 |
|-----|-----|--|--------------|---|---|------------|
|     |     | "20020056112"                          | USPAT; USOCR |   |   | 21:20      |
|     |     | "20030095542"                          |              |   |   |            |
|     |     | "4922529"   "4995074"                  |              |   |   |            |
|     |     | "5187710"                              |              |   |   |            |
|     |     |  |              |   |   |            |
|     |     | "5253341"   "5274700"                  |              |   |   |            |
|     |     | "5276731"                              |              |   |   |            |
|     |     | "5341425"   "5349638"                  |              |   |   |            |
|     |     | "5363431"                              |              |   |   |            |
|     |     | "5375161"   "5406557"                  |              |   |   |            |
|     |     | "5428608"                              |              |   |   |            |
|     |     | <u> </u> "5449970"   "5479411"         |              |   |   |            |
|     |     | "5483588"                              |              |   |   |            |
|     |     | "5533100"   "5533110"                  |              |   |   |            |
|     |     | "5537157 <sup>"</sup>                  |              |   |   |            |
|     |     | "5546447"   "5559800"                  |              |   |   |            |
|     |     | "5583929"                              |              |   |   |            |
|     |     | "5592529"   "5600643"                  |              |   |   |            |
|     |     | "5610910"                              |              |   |   |            |
|     |     | "5612997"   "5615252"                  |              |   | *************************************** |            |
|     |     | "5628005"                              |              | · ·                                     | *************************************** |            |
|     |     | "5629978"   "5642348"                  |              |   |   |            |
|     |     |  |              |   |   |            |
|     |     | "5652789"                              |              |   |   |            |
|     |     | "5689501"   "5689555"                  |              |   |   |            |
|     |     | "5689708"                              |              |   |   |            |
|     |     | "5696815"   "5706342"                  |              |   |   |            |
|     |     | "5708961"                              |              |   |   |            |
|     |     | "5712907"   "5724411"                  |              |   |   |            |
|     |     | "5724412"                              |              |   |   |            |
|     |     | "5737333"   "5740230"                  |              |   |   |            |
|     |     | "5740231"                              |              |   |   |            |
|     |     | ["5742596"   "5742905"                 |              |   |   |            |
|     |     | "5745553"                              |              |   |   |            |
|     |     | "5751706"   "5751760"                  |              |   |   |            |
|     |     | "5754775"                              |              |   |   |            |
|     |     | "5764752"   "5768513"                  |              |   |   |            |
|     |     | "5784444 <sup>"</sup>                  |              |   |   | ***        |
|     |     | "5790806"   "5793413"                  |              |   |   |            |
|     |     | "5796394"                              |              |   |   |            |
|     |     | "5796424"   "5796952"                  |              | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |   |            |
|     |     | "5802045"                              |              |   |   |            |
|     |     | "5802160"   "5805587"                  |              |   |   |            |
|     |     | "5809128"                              |              |   |   |            |
|     |     | "5809520"   "5814798"                  |              | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |   |            |
|     |     | "5825829"                              |              |   | *************************************** | *****      |
|     |     | "5825862"   "5850340"                  |              |   | *************************************** |            |
|     |     |  |              |   |   |            |
|     |     | "5850429"  <br>  "5850000"   "5860124" |              |   | •                                       | ***        |
|     |     | "5859902"   "5862134"                  |              |   | *************************************** | ****       |
|     |     | "5864612"                              |              |   |   |            |
|     |     | "5867495"   "5870565"                  |              |   |   |            |
|     |     | "5883677"                              |              | · ·                                     | *************************************** |            |
|     |     | "5883942"   "5887259"                  |              | ·                                       | *************************************** |            |
|     |     | "5889844"                              |              | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |   |            |
|     |     | "5894504"   "5896444"                  |              |   |   |            |
|     |     | "5898668"                              |              |   |   |            |

| "5898780"   "5907598"                |  |                                       |
|--------------------------------------|--|---------------------------------------|
| "5907604"                            |  |                                       |
| "5912962"   "5916302"                |  |                                       |
| "5917624"                            |  |                                       |
| "5920705"   "5923731"                |  |                                       |
| "5928335"                            |  |                                       |
| "5943397"   "5946381"                |  |                                       |
| "5946386"                            |  |                                       |
| "5956717"   "5970072"                |  |                                       |
| "5978470"                            |  |                                       |
| "5982774"   "5987100"                |  |                                       |
| "5987508"                            |  |                                       |
| "5999525"   "5999602"                |  |                                       |
| "5999612"                            |  |                                       |
| "6005861"   "6006253"                |  |                                       |
| "6011909"                            |  |                                       |
| "6023724"   "6028848"                |  |                                       |
| "6031896"                            |  |                                       |
| "6031899"   "6038233"                |  |                                       |
| "6044349"                            |  |                                       |
| "6052444"   "6052725"                |  |                                       |
| "6061434"                            |  |                                       |
| "6084892"   "6094431"<br>  "6101246" |  |                                       |
| "6104704"   "6104800"                |  |                                       |
| "6108330"                            |  |                                       |
| "6115393"   "6118432"                |  |                                       |
| "6118768"                            |  |                                       |
| "6118784").PN. OR                    |  |                                       |
| ("6122357"   "6128304"               |  |                                       |
| "6137870"                            |  |                                       |
| "6144401"   "6148193"                |  |                                       |
| "6154465"                            |  |                                       |
| "6154531"   "6160880"                |  |                                       |
| "6163531"                            |  |                                       |
| "6167043"   "6169795"                |  |                                       |
| "6185288"                            |  |                                       |
| "6188756"   "6188760"                |  |                                       |
| "6192116"                            |  |                                       |
| "6229887"   "6233235"                |  |                                       |
| "6233313"                            |  |                                       |
| "6233318"   "6243388"                |  |                                       |
| "6253249"                            |  |                                       |
| "6262979"   "6263065"                |  |                                       |
| "6263503"                            |  |                                       |
| "6266405"   "6285750"<br>  "6289025" |  |                                       |
|                                      |  |                                       |
| "6292553"   "6295298"<br>  "6300947" |  |                                       |
| "6304566"   "6308221"                |  |                                       |
| "6310889"                            |  |                                       |
| "6317884"   "6324279"                |  |                                       |
| "6330244"                            |  |                                       |
| "6332139"   "6333931"                |  |                                       |
| "6345047"                            |  |                                       |
|                                      |  | · · · · · · · · · · · · · · · · · · · |

|     |     | "6351464"   "6356546"   "6359881"   "6363411"   "6374124"   "6374296"   "6385305"   "6393017"   "6396531"   "6404764"   "6418139"   "6418146"   "6425131"   "6426955"   "6430276"   "6437692"   "6438222"   "6438223"   "6445922"   "6449766"   "6452915"   "6466570"   "6466964"   "6467090"   "6473858"   "6490274"   "6501740"   "6505348"   "6519249"   "6522628"   "6522880"   "6560216"   "6570870"   "6577644"   "6594254"   "6677644"   "6611531"   "6633635"   "6651105"   "6651105"   "6654607").PN. OR |                           |     |                     |
|-----|-----|---|---------------------------|-----|---------------------|
| S37 | 217 | ("6889321"). URPN.  ("20020013941"    "20020056112"    "20030095542"    "4922529"   "4995074"  "5187710"    "5253341"   "5274700"    "5276731"    "5341425"   "5349638"    "5363431"    "5375161"   "5406557"    "5428608"    "5449970"   "5479411"    "5483588"    "5533100"   "5533110"    "5537157"    "5546447"   "5559800"    "5583929"    "5592529"   "5600643"    "5610910"  | US-PGPUB;<br>USPAT; USOCR | OFF | 2008/06/29<br>21:21 |

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|-----------------------|------------|-----|------|
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| "5629978"   "5642348" |            |     |      |
| "5652789"             |            |     |      |
| "5689501"   "5689555" |            |     |      |
| "5689708"             |            |     |      |
| "5696815"   "5706342" |            |     |      |
| "5708961"             |            |     |      |
| "5712907"   "5724411" |            |     |      |
| "5724412"             |            |     |      |
| "5737333"   "5740230" |            |     |      |
| "5740231"             |            |     |      |
| "5742596"   "5742905" |            |     |      |
| "5745553"             |            |     |      |
| "5751706"   "5751760" |            |     |      |
| "5754775"             |            |     |      |
| "5764752"   "5768513" |            |     |      |
| "5784444"             |            |     |      |
| "5790806"   "5793413" |            |     |      |
| "5796394"             |            |     |      |
| "5796424"   "5796952" |            |     |      |
| "5802045 <sup>"</sup> |            |     |      |
| "5802160"   "5805587" |            |     |      |
| "5809128"             |            |     |      |
| "5809520"   "5814798" |            |     |      |
| "5825829"             |            |     |      |
| "5825862"   "5850340" |            |     |      |
| "5850429"             |            |     |      |
| "5859902"   "5862134" |            |     |      |
| "5864612"             |            |     |      |
| "5867495"   "5870565" |            |     |      |
| "5883677"             |            |     |      |
| "5883942"   "5887259" |            |     |      |
| "5889844"             |            |     |      |
| "5894504"   "5896444" |            |     |      |
| "5898668"             |            |     |      |
| "5898780"   "5907598" |            |     |      |
| "5907604"             |            |     |      |
| "5912962"   "5916302" |            |     |      |
| "5917624"             |            |     |      |
| "5920705"   "5923731" |            |     |      |
| "5928335"             |            |     |      |
| "5943397"   "5946381" |            |     |      |
| "5946386"             |            |     |      |
| "5956717"   "5970072" |            |     |      |
| "5978470"             |            |     |      |
| "5982774"   "5987100" |            |     |      |
| "5987508"             |            |     |      |
| "5999525"   "5999602" |            |     |      |
| "5999612"             |            |     |      |
| "6005861"   "6006253" |            |     |      |
| "6011909"             |            |     |      |
| "6023724"   "6028848" |            |     |      |
| "6031896"             |            |     |      |
| "6031899"   "6038233" |            |     |      |
| :}                    | <b>\\$</b> | 1\$ | : \$ |

| "6044349"                            |   |   |       |
|--------------------------------------|---|---|-------|
| "6052444"   "6052725"                |   |   |       |
| "6061434"                            |   |   |       |
| "6084892"   "6094431"                | *************************************** |   |       |
| "6101246"                            |   |   |       |
| "6104704"   "6104800"                |   |   |       |
| "6108330"                            |   |   |       |
| "6115393"   "6118432"                | *************************************** |   |       |
| "6118768"                            |   |   |       |
| "6118784").PN. OR                    |   |   |       |
| ("6122357 <sup>°</sup>   "6128304"   | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |   |       |
| "6137870"                            |   |   |       |
| "6144401"   "6148193"                |   |   |       |
| "6154465"                            |   |   |       |
| "6154531"   "6160880"                |   |   |       |
| "6163531"                            |   |   |       |
| "6167043"   "6169795"                |   |   |       |
| "6185288"                            | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |   |       |
| "6188756"   "6188760"                |   |   |       |
| "6192116"                            |   |   |       |
| "6229887"   "6233235"                |   |   |       |
| "6233313"                            |   |   |       |
| "6233318"   "6243388"                |   |   |       |
| "6253249"                            | *************************************** |   |       |
| "6262979"   "6263065"                |   |   |       |
| "6263503"                            | · · · · · · · · · · · · · · · · · · ·   |   |       |
| "6266405"   "6285750"                |   |   |       |
| "6289025"                            |   |   |       |
| "6292553"   "6295298"                | *************************************** |   |       |
| "6300947"                            |   |   |       |
| "6304566"   "6308221"                |   |   |       |
| "6310889"                            |   |   |       |
| "6317884"   "6324279"                |   |   |       |
| "6330244"                            | *************************************** |   |       |
| "6332139"   "6333931"                |   |   |       |
| "6345047"                            |   |   |       |
| "6351464"   "6356546"                |   |   |       |
| "6359881"                            |   |   |       |
| "6363411"   "6374124"                | *************************************** |   |       |
| "6374296"                            | *************************************** |   |       |
| "6385305"   "6393017"                |   |   |       |
| "6396531"                            |   |   |       |
| "6404735"   "6404764"                | *************************************** |   |       |
| "6418139"                            |   |   |       |
| "6418146"   "6418216"                |   |   |       |
| "6425131"                            | · · · · · · · · · · · · · · · · · · ·   |   |       |
| "6426955"   "6430276"                |   | *************************************** |       |
| "6437692"                            |   |   |       |
| "6438222"   "6438223"                |   | *************************************** |       |
| "6442266"  <br>"6445022"   "6440766" |   |   |       |
| "6445922"   "6449766"                |   |   |       |
| "6452915"  <br>"6456621"   "6450013" |   | *************************************** |       |
| "6456621"   "6459913"<br>  "6463146" |   |   |       |
| "6463146"  <br>"6466570"   "6466964" |   | *************************************** |       |
| "6466570"   "6466964"                |   |   |       |
| 18                                   | : <b>\$</b>                             | -3                                      | , : } |

| S45 | 44 | ("5029208"   "5311593"<br>  "5748736"  <br>"6026167").PN. OR<br>("6195751").URPN.                                | US-PGPUB;<br>USPAT; USOCR   | OR  | OFF | 2008/06/29<br>22:32 |
|-----|----|--|---|-----|-----|---------------------|
| S44 | 1  | "6195751".pn.  | USPAT   | OR  | OFF | 2008/06/29<br>22:06 |
| S43 | 6  | S42 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706")               | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2008/06/29<br>21:59 |
| S42 | 23 | (ad-hoc) and ((modif\$4<br>or updat\$4) same<br>(group keys))  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2008/06/29<br>21:59 |
| S41 | 18 | S40 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706")               | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2008/06/29<br>21:56 |
| S40 | 65 | (ad-hoc) and group<br>keys   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2008/06/29<br>21:56 |
| 339 | 1  | "6526508".pn.  | USPAT   | OR  | OFF | 2008/06/29<br>21:41 |
| 338 | 1  | "6606744"  <br>"6611531"   "6633635"<br>  "6651105"  <br>"6654607").PN. OR<br>("6889321").URPN.<br>"6523508".pn. | USPAT   | OR  | OFF | 2008/06/29<br>21:41 |
|     |    | "6563793"   "6563915"<br>  "6570870"  <br>"6577644"   "6594254"  |   |     |     |                     |
|     |    | "6526508"  <br>"6546488"   "6560203"<br>  "6560216"  |   |     |     |                     |
|     |    | "6519249 <sup>"</sup>  <br>"6522628"   "6522880"   |   |     |     |                     |
|     |    | "6467090"  <br>"6473858"   "6490274"<br>  "6493324"  <br>"6501740"   "6505348"                                   |   |     |     |                     |

| S46 | 991  | (380/270).CCLS.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2008/06/30<br>15:03 |
|-----|------|--|---|-----|-----|---------------------|
| S47 | 647  | S46 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706") | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2008/06/30<br>15:04 |
| S48 | 2957 | (713/176).COLS.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2008/06/30<br>15:04 |
| S49 | 1980 | S48 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706") | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2008/06/30<br>15:04 |
| S50 | 3    | Jung-Kyung-Hun.in.   | US-PGPUB;<br>USPAT  | OR  | OFF | 2008/06/30<br>15:05 |
| S51 | 33   | park-Jong-ae.in.   | US-PGPUB;<br>USPAT  | OR  | OFF | 2008/06/30<br>15:05 |
| S52 | 19   | lee-in-sun.in.   | US-PGPUB;<br>USPAT  | OR  | OFF | 2008/06/30<br>15:06 |
| S53 | 0    | "20030210787".AP.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2009/02/12<br>11:04 |
| S54 | 2    | "20030210787".pn.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2009/02/12<br>11:04 |
| S55 | 2    | "6889321".pn.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2009/02/12<br>11:05 |

| S56 | 5    | "613125".ap.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2009/02/12<br>11:32 |
|-----|------|--|---|-----|-----|---------------------|
| S57 | 1    | "20030210787".pn.  | US-PGPUB;<br>USPAT  | OR  | OFF | 2009/02/13<br>10:35 |
| S58 | 99   | Jang-Kyung-Hun.in.   | US-PGPUB;<br>USPAT  | OR  | ON  | 2009/02/13<br>13:36 |
| S59 | 34   | Park-Jong-ae.in.   | US-PGPUB;<br>USPAT  | OR  | ON  | 2009/02/13<br>13:37 |
| S60 | 24   | Lee-in-sun.in.   | US-PGPUB;<br>USPAT  | OR  | ON  | 2009/02/13<br>13:37 |
| S61 | 1111 | (380/270).CCLS.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2009/02/13<br>13:38 |
| S62 | 1726 | (380/277).CCLS.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR  | OFF | 2009/02/13<br>13:38 |
| S63 | 673  | S61 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706") | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2009/02/13<br>13:38 |
| S64 | 1141 | S62 and (@pd<br><"20020706" OR @ad<br><"20020706" OR @rlad<br><"20020706" OR @prad<br><"20020706") | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON  | 2009/02/13<br>13:38 |

## 7/4/2009 4:44:15 PM

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